

Appl. No. 09/932,430
Amdt. dated Feb. 17, 2004
Reply to Office Action of Oct. 16, 2003

REMARKS

Applicants respectfully request reconsideration of this application in view of the foregoing amendments to claims and the following comments.

In the Office Action, claims 18-21 and 30-38 were rejected under 35 U.S.C. § 112, first and second paragraphs, as allegedly failing to comply with the written description requirement and as allegedly indefinite. Also, claims 13-14, 16-18, 23 and 30-38 were rejected under 35 U.S.C. § 103(a), as allegedly obvious over U.S. Patent No. 6,440,011 to Hocknell et al. (the "Hocknell" patent) in light of U.S. Patent No. 6,162,133 to Peterson (the "Peterson" patent). Claims 15 and 19-21 were rejected under 35 U.S.C. § 103(a), as allegedly obvious over these same references, in further view of Japanese Publication 2001-029518 ("Jap. Pub. '518").

By this Amendment, Applicants have amended claims 13, 18, 23 and 30. For organizational purpose only, and not for reasons related to patentability, Applicants have amended independent claim 13, moving thickness parameters of the unitary body from the second subparagraph into the first subparagraph. This reorganization is merely clerical in nature and is not intended to alter claim scope in any manner.

Nineteen claims are presented for reconsideration. Applicants specifically address the rejections below.

I. Rejections of Claims 18-21 and 30-38 based on Written Description and Indefiniteness

As mentioned above, claims 18-21 and 30-38 were rejected under 35 U.S.C. § 112, first and second paragraphs, as allegedly failing to comply with the written description requirement and as allegedly indefinite. Both sets of rejections were based upon the claim limitation: "maximum thickness of between 1.1 and 1.8 mm."

In response, Applicants have amended claims 18 and 30 removing that range limitation of "between 1.1 and 1.8 mm," replacing it with "less than about 2.2. mm."

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Accordingly, the rejections of claims 18-21 and 30-38 under Section 112, first and second paragraphs, are now moot and should be withdrawn.

II. Obviousness Rejections of Claims 13-14, 16-18, 23 and 30-38

As mentioned above, independent claims 13, 18 and 30, and dependent claims 13-14, 16-17, 23 and 31-38 were rejected under 35 U.S.C. § 103(a), as allegedly obvious over the Hocknell patent in view of the Peterson patent. Applicants respectfully traverse these rejections.

A. The Hocknell Patent

The Hocknell patent discloses a golf club head formed of four main components: a face member (60), a crown (62), a sole (64), and an interior hosel (54). (See Fig. 9.) The face member includes a striking plate (72) and a face extension (74) that extends from the striking plate. An upper lateral extension (76) of the face extension defines an aperture (59) for receiving the interior hosel.

B. The Peterson Patent

The Peterson patent discloses a golf club head having a one-piece body (32) defining a rear opening (34) and a removable cap (36). The one-piece body includes a face plate (12) integral with a top crown (16), a sole plate (22) and a skirt (30). (Col. 7, lines 64-67.) Peterson attributes benefit in having the face plate as part of the one-piece body, as follows:

"Because the face plate 12 and the sole plate 22 are formed as part of the one-piece body 32, the face plate and sole plate are always correctly positioned at the desired configuration and angle. Advantageously, because there is little or no variation between the angle of the face plate 12 and sole plate 22, each club head 10 will have essentially the same loft, lie and face angle."

(Col. 4, lines 27-31; *see also* col. 2, lines 44-55.)

The golf club head of the Peterson patent also includes a reinforcement structure (50) connected to the face plate. (Col. 6, lines 39.) The reinforcement structure is used to strengthen the crown, sole and face plate, to prevent deformation of the face plate upon impact with a golf ball. (Col. 2, lines 56-67.) Peterson also teaches that graphite or other materials may

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be placed on the front face of the one-piece body (32). (Col. 4, lines 59-62, "the face plate 12 may include an insert, such as graphite or other materials, on the front face designed to impact the ball.")

C. Claim 13-14, 16-17 and 30-38

As amended, independent claims 13 and 30 set forth methods of manufacturing a golf club head having superior characteristics. The methods includes forming a unitary body defining a front opening and a second opening for receiving a tip of a club shaft. The striking face is attached to a front opening of the unitary body. The resultant club head has a thin striking face attached to a unitary body. This configuration contributes to structural and performance characteristics of the resultant club head.

Among other things, a *prima facie* case of obviousness requires that cited references must teach or suggest all the claim limitations of an invention. The teaching or suggestion must be found in the prior art and not based on the applicant's own disclosure. See MPEP 706.02(j), 2143. The Hocknell and Peterson patents, singly and in combination, fail to disclose, or even suggest, a method of manufacturing a golf club head having all of the features of independent claims 13 and 30. For example, the unitary body is formed to define a front opening and a second opening for receiving a tip of a club shaft. Rather, both Hocknell and Peterson fail to make any mention of a unitary body defining a front opening for receiving a striking face. Both take entirely different approaches.

Hocknell's club head is formed of four main components, including a face member, a crown, a sole, and an interior hosel. The crown and the sole of formed as separate pieces and, therefore, are not formed as part of a unitary body. The sole is first welded to the face member and, thereafter, the crown is welded to the combination. (Col. 7, lines 60-64). Thus, manufacturing the club head of the Hocknell patent requires additional welds and additional attaching steps. Also, Hocknell fails to define an opening for receiving a club shaft, as set forth in the claims. In contrast, the face member and internal hosel are configured to receive the club shaft, resulting in different structural considerations.

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Peterson fails provide any teaching, or motivation, for forming a unitary body defining a front opening for receiving a striking face. Rather, Peterson teaches the opposite, i.e., having the face plate as part of the one-piece body. (Col. 4, lines 27-31.) Peterson's club head is formed of a one-piece body, including the face plate and defining a rear opening, and a rear cap. Peterson repeatedly emphasizes the importance of having the face plate as part of the one-piece body. (*Id.*; see also, col. 2, lines 44-55.) Peterson further teaches the use of additional structure on the club head, consistent with his teachings of having an integral face plate. For example, he limits the use of separate structure on the face plate, teaching that graphite or other materials may be placed on the front face of the one-piece body (32). (Col. 4, lines 59-62, "the face plate 12 may include an insert, such as graphite or other materials, on the front face designed to impact the ball.") Also, in considering approaches to optimize his club head, Peterson further includes a reinforcement structure to further marry the striking face with the crown and sole for additional rigidity.

Based on these teachings, one skilled in the art would be dissuaded from forming a club head in the manner set forth in the claims. Thus, the Examiner's obviousness conclusion appears to be based on the Applicant's specification (hindsight reconstruction) since there is no motivation to combine and modify the teachings of the Hocknell and Peterson patents to arrive at Applicants' invention.

Claims 14, 16 and 17 depend from claim 13, adding features that more particularly define the invention and further distinguish over the prior art. Moreover, claims 31-38 depend from claim 30, adding features that more particularly define the invention and further distinguish over the prior art. Accordingly, the rejection of claims 13-14, 16-17 and 30-38, as allegedly obvious, is improper and should be withdrawn.

D. Claims 18 and 23

As amended, independent claims 18 and 23 define a method of manufacturing a golf club head having superior characteristics. The method includes forming a unitary body of a titanium alloy, including a crown having a thickness of about 0.7 mm, a skirt, and a sole having a thickness of about 0.9 mm, defining a front opening. The recited methods further include cold

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forming a striking plate of a beta-type titanium alloy to have a hardness of at least 30 HRC and a percent elongation of at least 7%, said striking plate having a maximum (for claim 18, less than about 2.2 mm; and for claim 23 about 1.7 mm), as well as, providing a weight member of between 18 to 22 grams to said sole of said body. The body includes a plurality of support tabs spaced about the front opening. (see, FIG. 1). The striking plate is welded to the front opening of the body.

The Hocknell and Peterson patents fail to disclose, or even suggest, a method of manufacturing a golf club head having all of the features of claims 18 and 23, including forming a unitary body having support tabs spaced about the front opening. Rather, in Hocknell's multi-piece construction, the face member is first welded to the sole and, thereafter, the crown is welded to the combination. (Col. 7, lines 60-64). In Peterson's club head, the face plate is integral with the body.

Accordingly, for these reasons and for the reasons set forth above, the rejection of independent claims 18 and 23 is improper and should be withdrawn.

III. Obviousness Rejections of Claims 15 and 19-21

As stated above, claims 15 and 19-21 were rejected under 35 U.S.C. § 103(a), as allegedly obvious, under the Hocknell patent in view of the Peterson patent and Jap. Pub. '518. On page 4 of the Office Action, the Examiner asserts, as follows:

"The prior art [i.e., Hocknell and Peterson] discloses the forging process but does not disclose expressly the method of cold forging or cold working process in forming the striking plate. JP '518 teaches 15% or more of the cold working process in club head and such metal forming process increased stress and resistance hardness. Thus, it would have been obvious in view of JP '518 to one having ordinary skill in the art to fabricate to club head of the prior art using 15% or more of the cold working as taught by JP '518 to gain the above benefits."

As the Examiner correctly acknowledges, the Hocknell patent fails to disclose a method of manufacturing a golf club head forth at least about 30% cold working the striking

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plate, let alone the all of the other required features of claims. In fact, Hocknell's disclosure conflicts with JP '518. Rather, Hocknell teaches forming a face member having a striking plate and a face extension, by a process involving multiple heating and pressing steps. Altering the Hocknell method in the manner set forth by the Examiner (*i.e.*, cold forming rather than multiple heating and pressing steps) changes Hocknell's very principle of operation and, therefore is improper. MPEP 2103.01 ("The proposed modification cannot change the principle of operation of a reference.") Moreover, based upon the teachings of Hocknell, one skilled in the art would have been dissuaded from forming a striking plate in the manner set forth in claims 15, 20 and 21.

Accordingly, for these reasons and for the reasons set forth above, the rejection of claims 15 and 19-21 is improper and should be withdrawn.

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IV. Conclusion

The foregoing remarks should place this application in condition for allowance. If any matters remain outstanding after consideration of this Amendment that the Examiner believes might be expedited by a telephone conference with Applicants' representative, he is respectfully requested to call the undersigned attorney at the number indicated below.

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Respectfully Submitted,

SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

By: 

Kyriacos Tsircou

Registration No. 53,705

333 South Hope Street, 48th Floor
Los Angeles, California 90071
Telephone: (213) 620-1780
Facsimile: (213) 620-1398